Some Observations on the *Phasis thero* (L.)* group (Lepidoptera : Lycaenidae) with a description of a New Species

By C. G. C. Dickson

Apart from Murray's description of *Phasis clavum* (which was considered to be a variety of *Ph. thero* (L.)), **the group has received little attention from the taxonomic point of view since Trimen's day, and in spite of the fact of its containing what appears to be a third, clearly defined species. This latter insect was known to Trimen and he refers to specimens of it (under *thero*) which were taken by Colonel Bowker in the Eastern Cape Colony; while a clear and concise description is given by him of the butterfly which is now known as *clavum*, under his "Var. A.' of *Zeritis thero*.

While *Ph. thero* is largely a coastal butterfly, *Ph. clavum* (which is a good species in itself) is more of an island insect although the ranges of the two do overlap in places. The latter species occurs, for instance, on Piquetberg Mountain, but *thero* has been obtained just at the base of this mountain and, again, further inland near Citrusdal.

Ph. thero is known by the writer to occur, in the Cape Province, at least as far to the N.W. as Lambert's Bay, where it is of a particularly dark form, and as far east as Lake Pleasant, near Knysna; but from the records of others its range extends farther in either direction. *Ph. clavum* is plentiful in Little Namaqualand (Kamieskroon, Springbok, etc.) and, in an easterly direction, extends at least into the more westerly portion of the Great Karroo. There is some decided local variation in both these insects but without, it is believed, any actual intergrading with the butterfly which is described in this article.

The present butterfly was found in the Queenstown district of the Eastern Cape Province by Mr. N. A. Brauer but it occurs also, in a somewhat different form, with the orange-red markings of the upperside, in some cases, not so pronounced and often with a lighter background to the hindwing underside, in some of the more karroid areas of the Cape far to the west or S.W. of Queenstown.

Phasis braueri spec. nov.

This insect is somewhat intermediate in appearance, in certain respects, between *Ph. thero* and *Ph. clavum* but it exhibits certain clearly characteristic features of its own. In wing-shape it resembles *thero* quite closely, with the forewing a little more elongated and the outer—and inner—margins of the hindwing forming a rather less obtuse angle than is usual in *clavum*. The outer-margin of the forewing is, however, nearly always less concave than in *thero*. The projection at the end of vein 2, in the hindwing, is shorter than in *thero* but more apparent than in *clavum*, in which it is always very much reduced, while the one at the end of vein 1b is fully developed in the present insect.

The orange-red marking of the upperside is particularly well

*Papilio *thero* Linnaeus, Mus. Lud. Ulr. Reg., p. 328, n. 146 (1764).

**Murray, Desmond P., 1935. "South African Butterflies : A Monograph of the Family Lycaenidae", pp. 104-105, fig. 49a.

developed in all wings in the female and in the male more so in the hindwing submarginally than it normally is in *thero* (in which there is sometimes complete absence of this marking—and, far more often so, in the case of *clavum*). On the underside both sexes are readily distinguishable from *thero* by the absence or less continuous formation of some of the silvery-white markings of the hindwing (but with such reduction less pronounced as a rule than in *clavum*). These markings also have a purer white tone than is usual in *thero*, in which they tend to have a slightly golden tint. In some of the females of *Ph. braueri* this more golden tint may, however, be present.

Male. Upperside.

Forewing. The orange-red markings as in *Ph. thero* and varying in their degree of development in different specimens. White divisions of cilia clearer than in *thero*.

Hindwing The submarginal orange-red markings between the veins large and prominent in areas 2-4; the marking in area 1c mainly lake. White divisions of cilia clearer in hindwing also, than in *thero*.

Underside.

Forewing. Close to that of the other two species, allowing for the usual degree of variability in these insects; the grey markings between the veins, within the dark band parallel with the margin, present to a variable extent as in *clavum*, especially in the lower half of the band. There is less brown clouding near the inner-margin than in the other two insects if specimens of these are considered as a whole.

Hindwing. Light and dark areas of the wing almost as in *thero* but the light portions less smooth in appearance and more irrorated with fine dark scaling—as is also the case with the light submarginal area of the underside of the forewing. Small silvery-white marking in the cell short and more or less rounded, not comparatively large and markedly elongated as in *thero*. Owing to their being more broken up into separate markings, the very irregularly disposed smaller light discal markings do not give the impression of a sinuate chain of markings, as is normally the case in *thero*.

Length of forewing: 17-21 mm. (20·5 mm., in holotype).

Female. Upperside.

The orange marking lacks the decidedly reddish tone which is so apparent in fresh male specimens.

Forewing. Orange markings so enlarged as to virtually form an orange field in which the remaining blackish-brown spaces themselves form a pattern of dark, mainly contiguous spots. Cilia with the white spaces considerably longer than the dark divisions at the vein-ends.

Hindwing. Discal area with marked orange suffusion (in addition to the prominent submarginal orange markings), which is strongest in areas 1c-3, and which continues less clearly through the cell, almost to the wing-base Submarginal marking in area 1c largely lake, as in the male.

Underside.

Forewing. Practically as in the male; the orange colouring more extensive towards the costa, between the upper discal spots and the dark band parallel with the margin.

Hindwing. Also substantially as in the male. In the allotype, the marking in the cell is in the form of two small dots, which are united in

one of the wings.

Length of forewing: 18·5-24·5 mm. (22 mm., in allotype).

The palpi, in both sexes, are closer to those of *thero* and have more white scaling along their main portion laterally than in *clavum*. Antennae also nearer to those of *thero* and having more light scaling beneath than in *clavum*.

♂ Holotype, EASTERN CAPE PROVINCE: Queenstown, 20.iii.1966 (N. A. Brauer); British Museum Reg. No. Rh. 17080. ♀ Allotype, data as holotype, 5.xii.1965; British Museum Reg. No. Rh. 17081.

Paratypes presented to British Museum (N.H.), as holotype, 26.x.1963, 1♂; 4.xii.1965, 1♀; 5.xii.1965, 2♂♂; 6.xii.1965, 2♂♂; 12.xi.1966, 2♀♀; 9.xii.1967, 2♂♂.

Paratypes in the author's collection, as holotype, 5.xii.1965, 1♂; 9.x.1966, 1♂; 12.xi.1966, 1♀; 9.xii.1967, 1♀.

Paratypes in Coll. N. A. Brauer, as holotype, 4.xii.1965, 1♂; 5.xii.1965, 2♂♂, 2♀♀; 9.x.1966, 1♂, 1♀; 12.xi.1966, 1♀; 9.xii.1967, 3♂♂, 5 ♀♀.

Paratype in Coll. C. D. Quickelberge, as holotype, 28.xi.1966, 1♂ (C.D.Q.).

Paratypes in Coll. C. W. Wykeham, as holotype, xi.1967, 2♂♂.

Paratypes in Coll. Transvaal Museum, as holotype, 4.xii.1965, 1♂; 9.xii. 1967, 1♂, 1♀; Fincham's Nek, Queenstown, 22.iv.1962, 1♂, 2 ♀♀ (N.A.B.).

Variation of the type which might be expected occurs in some of the paratypes, this applying largely to the orange markings of the upperside. In some females the discal orange colouring of the hindwing is considerably reduced and in one example there is only a slight indication of it. In nearly all specimens of both sexes the silvery-white marking in the cell, on the hindwing underside, is in the form of a single small spot, but this is occasionally doubled (or partially so), more often in female specimens. In one of the males this marking is actually prolonged into a distinct short streak which joins the large marking beyond the cell. One or two of the male paratypes have the smaller markings of the hindwing underside even less completely developed than is usual in this insect, and partially absent.

Uitenhage specimens which were taken by Col. Bowker, and mentioned by Trimen (*op. cit.*), would seem to have been very close to the present Queenstown examples—this also applying to specimens from a locality on the Addo road known to the late Gowan C. Clark and which the writer visited in his company in 1950. The complete life-history had already been recorded from material from this spot.* A large female which was caught by the author at Oudtshoorn on 28th October, 1949, agrees well with Queenstown females apart from its lacking the discal orange suffusion of the upperside of the hindwing.

There is no very pronounced difference in the male genitalia, but this does not preclude specific status, many other cases of closely related species with similar genitalia being known. The following slight differences are observable in the actual specimens which have been compared by the writer: the aedeagus is less robust in proportion to its length in both *braueri* and *clavum;* the juxta is correspondingly reduced in size in the first two insects, the arms of the juxta being longer and more slender

*Clark, Gowan C. 1942. J. ent. Soc S. Afr. V: 111-115, Pl. III.

in the case of *clavum;* the distal lobe of the valve is more strongly serrated in *thero,* from Melkbosch Strand.

The ♂ genitalia of *Ph. thero* have been figured by Monsieur Stempffer —Stempffer, H., 1967. Bull. Br. Mus. nat. Hist. (Ent.), Suppl. 10. p. 172, fig. 154.

This striking Lycaenid is named with pleasure after my friend Mr. N. A. Brauer who, after very long experience of the butterflies of the Western Cape, was able to pay special attention in more recent years to those of the Queenstown district.

Mr. Brauer, in a letter to me, has stated:—"This insect occurs locally in the Queenstown, Whittlesea, Tylden, Tarkastad and Cradock areas. As observed by Clive Quickelberge, its range of flight is never far from a species of dull-green "Taaibos" or *Rhus* (Anacardiaceae) growing in the above-mentioned areas; and this is known to be its food-plant. Males perch high up on these tall shrubs and chase rival males from one shrub to another. Females are very much scarcer than the males and are usually found on the lower branches of the shrubs. In both the Queenstown and Cradock areas I have observed females some distance from these shrubs. Both males and females are difficult to find after the sun has reached its zenith. In Queenstown the peak of the insect's emergence from the pupa appears to be reached in November, although specimens have been found on the wing from October to April."

Mr. G. E. Tite has very obligingly read the manuscript of this paper before its publication; Mr. C. D. Quickelberge has kindly loaned specimens for study; and Dr. L. Vári has given the writer access to the Transvaal Museum specimens of this insect for inclusion in the type-material.

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Notes on *Adela cuprella* Thunberg

By S. Wakely

On the 27th April 1968, the British Entomological and Natural History Society held a field meeting at Chobham Common, Surrey. During a break for lunch some of the insects taken during the morning were being passed round for inspection and among these was a fine specimen of *Adela cuprella.* It had been taken from sallow by Mr. P. J. Chandler, a dipterist, who was kind enough to pass it on to Mr. R. Uffen. None of the microlepidopterists present, including myself, had ever taken this species previously and after lunch Col. Emmet, Raymond Uffen and I made our way to the particular sallow trees described by the captor and tried by beating the branches to dislodge others that might be present. Unfortunately it started to rain but Col. Emmet managed to take several. I gave up as the rain got worse and the ground was very swampy.

On reaching home that evening I phoned Mr. Richard Fairclough to tell him the news and he suggested a return trip the following day. Accordingly we went there and this time the weather was more kind and the sun shone most of the time we were collecting. Richard had brought his son Alan with him and his keen eyesight materially assisted in the capture of about thirty specimens. Most of the sallows were past their prime as regards their catkins' attractant powers to insects, but occasionally a tree was found with hosts of bees and diptera present enjoying the